



Govt. of India
Ministry of New & Renewable Energy
Solar Energy Centre
P.O. & Village Gwalpahari, Distt. Gurgaon
Haryana, India

2011-2012

**TEST REPORT ON
LED BASED SOLAR STREET LIGHTING SYSTEM**

The Industry is the manufacturer of Electronics for LED Based Solar Street lighting system

Sample ID No: 321/11/LED

Manufactured by: M/s. INSTAPOWER limited Gurgaon Haryana

M/s. Submitted by : M/s. INSTAPOWER limited Gurgaon Haryana

Note

This is a report on measurements carried out on the LED based Solar Street Lighting system submitted at Solar Energy Centre as per MNRE specifications. The data reported in this TEST REPORT are valid at the time of and under the stipulated conditions of measurement and the test results are applicable to this sample only and do not apply to other Solar street Lighting systems even though declared to be identical. The data contents in this report do not constitute a qualification test certificate. SEC does not accept any liability for any consequences including commercial or otherwise arising out of the utilization of the information contained in the report.

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Rajesh Kumar

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Sample ID No: 321/11/LED

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S N	Description of components	MNRE Specifications	Manufacturer Claim	SEC Observations	Remarks
1	PV Module i. a) Name of Manufacturer or Company Logo b) Model or Type No. c) Serial No. d) Year of Make ii Module Wattage at 16.4V or any other suitable voltage under STC iii. Type of Module iv. Voc of PV Module	Should be provided Should be provided Should be provided Should be provided 40 W at 16.4V Crystalline silicon 21.0 V	Ms. WAAREE WS45 WSAZM061111481 2011 40 W Multi crystalline Si	Ms. WAAREE WS45 WSAZM061111481 2011 49.49 W Multi crystalline Si 21.89 V	
2	LOAD/LIGHT (White LED based Light) i. Make/Origin of LED ii. No. of LEDs iii. Light output (in lux) from 4 meter height a) at centre b)1.0M dia c) 2.0M dia d)4.0M dia	Should be mentioned Should be mentioned Should be mentioned 15 Lux	Philips 6 Nos. 15 Lux	Philips 6 Nos. 34.1 Lux 31.93 Lux 19.15 Lux 15.0 Lux	
3	Battery i. Make and type of Battery ii. Voltage iii. 100% capacity at C/10 or suitable Discharge rate. iv. %Capacity between fully charged and load cut-off condition.	Should be provided 12V 40Ah 75%	Ms. Exide , Tubular plate lead acid 12 V 40 AH Comply	Ms. Exide , Tubular plate lead acid 12 V 48.9 AH Comply	
4	Electronic DC -DC converter a. Parameter at 12 V i) Input power ii) Output power iii) Efficiency	Should be mentioned Should be mentioned 85%	 85 %	7.70 W 7.005 W 90.93 %	

Prepared by: *Richie*

Approved by: *Rajesh Kumar*

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S.N.	Test Description	Requirement as MNRE Specifications	Manufacturer Claim	SEC Observations	Remarks
5	Protections a) No Load protection b) Battery Protection c) Low voltage cut-off d) Load reconnect e) Over charge cut-off(V) f) No load current g) Temperature compensation	Should be required Should be required Should be required Should be required Should be required Should be required Should be required	Provided Provided Provided Provided Provided Provided	Provided Provided 10.65 V 12.16 V 14.42 V 11.37 mA Provided	Load cut off voltage and temperature compensation needs to be adjusted
6	Other features Duty cycle /autonomy (42 hours) Blocking Diode Reverse Polarity Fuse Indicator	Required to qualify Should be provided Should be provided Should be provided Should be provided	Qualify Provided Provided Provided Provided	Qualify Provided Provided Provided Provided	

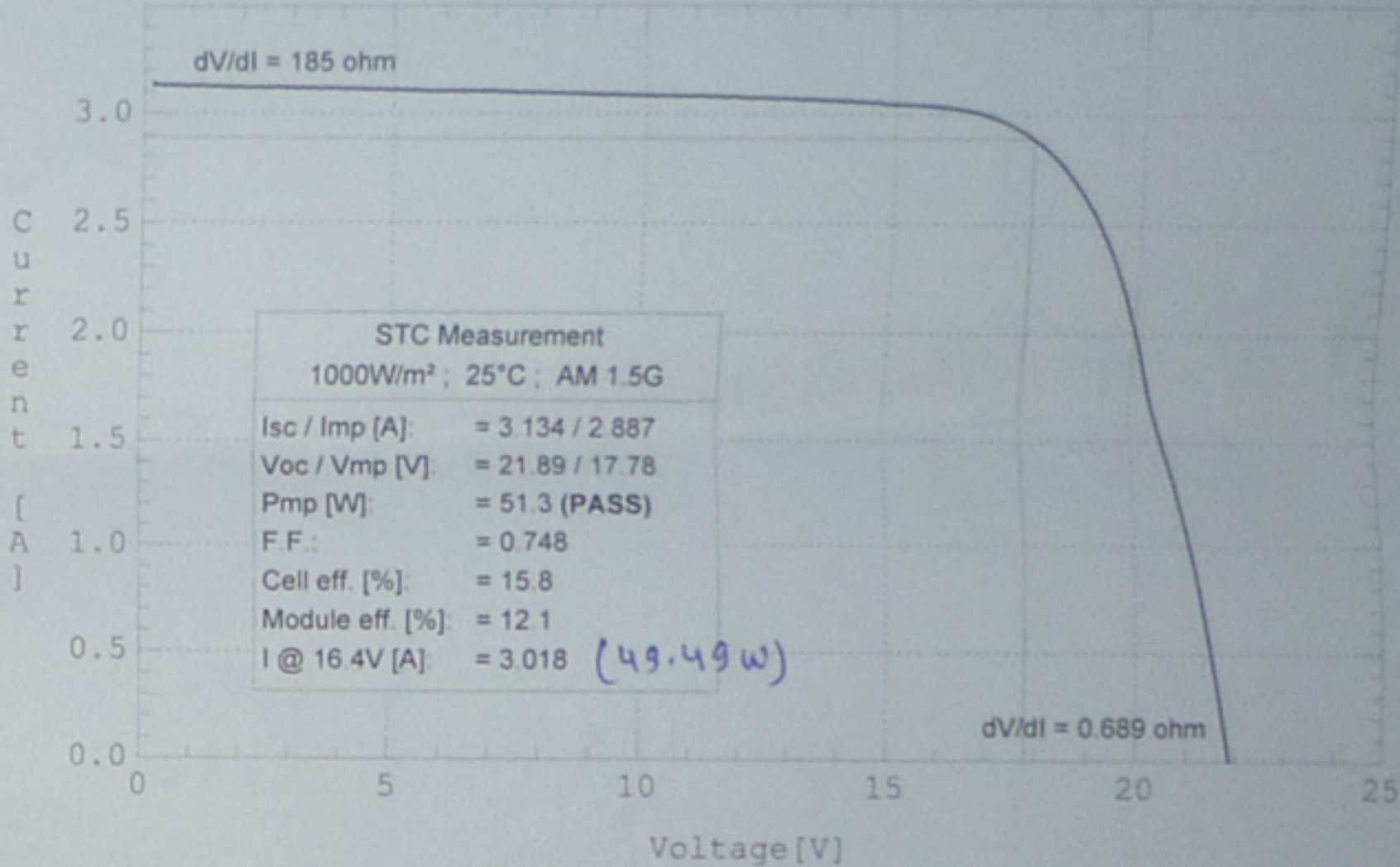
Note : Based on the testing conducted at SEC the system meets the performance requirement as per MNRE Specifications.

Prepared by: *Richie*

Approved by: *Rajesh Kumar*

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Module:	1	Operator:	VK
Name:	Multi C-Si 321/11/LED #:		WS 45
Bin #:	Yr-2011		
Manufacturer:	WAAREE	Product ID:	WSAZM 061111481
Current temp. coeff. (microA/cm ² /°C):	15.00	Voltage temp. coeff. (mV/cell/°C):	-2.10
Curve correction fac. (mOhm/cell/°C):	0.00	Series resistance. (mOhm/cell):	6.00
Cell area (cm ²):	90.48	Module area (m ²):	0.425250
Cells parallel:	1	Cells serial:	36
Ambient temp. (°C):	25.1	Sensor temp. (°C):	25.2
Irradiance (W/m ²):	1000	Corrected temp. (°C):	25.0
Isc (A):	3.134	Imp (A):	2.887
Voc (V):	21.89	Vmp (V):	17.78
Pmp (W):	51.3	F.F.:	0.748
Cell eff. (%):	15.8	Module eff. (%):	12.1
Est. shunt resistance: (ohm)	185	Est. series resistance: (mohm)	689

Notes:

Richie

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